

IN THE CLAIMS:

Please amend Claims 1 and 9 as follows:

1. (Currently Amended) A magnetic resonance imaging apparatus comprising:

an RF coil system comprising at least two sets of at least two RF coils which detects RF signals from a region of interest,

at least two receiver channels which receive and process the detected RF signals,

and

a control unit which controls at least one switch that selectively routes at least one detected RF signal towards separate receiver channels via one particular path of at least two possible paths, said at least one detected RF signal is combined with an RF signal of at least two RF coils depending on the imaging parameters, said control unit applies the combined RF signals to separate receiver channels, such that at least two detected RF signals can be combined to form a combined signal and the combined signal is applied to one particular receiver channel.
2. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 1, wherein said control unit is provided to combine the RF signals of several groups of at least two RF coils into a separate receiver channel.
3. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 1, wherein said RF coil system comprises two sets of four RF coils.

4. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 1, wherein said RF coil system comprises a birdcage head coil arrangement.

5. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 4, wherein said control unit is provided to combine the RF signals of RF coils arranged on opposite sides of the head.

6. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 1, wherein said control unit is provided to combine the RF signals of neighboring RF coils.

7. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 1, wherein said control unit is provided to select and/or combine the RF signals of at least two RF coils depending on the phase encoding direction.

8. (Previously Amended) A magnetic resonance imaging apparatus as claimed in claim 1, wherein said control unit is provided to select and/or combine the RF signals of at least two RF coils depending on the desired SENSE reduction direction.

9. (Currently Amended) A magnetic resonance imaging method, comprising the steps of:

detecting RF signals from a region of interest while using an RF coil system comprising at least two sets of at least two RF coils,

receiving and processing the detected RF signals while using at least two receiver channels, and

controlling at least one switch that selectively routes at least one detected RF signal towards separate receiver channels via one particular path of at least two possible paths for combining the RF signals of at least two RF coils depending on the imaging parameters and applying the combined RF signals to separate receiver channels, such that at least two detected RF signals can be combined to form a combined signal and the combined signal is applied to one particular receiver channel.

10. (Previously Presented) The method as claimed in claim 9, wherein said controlling step comprises the step of combining RF signals of several groups of at least two RF coils into a separate receiver channel.

11. (Previously Presented) The method as claimed in claim 9, wherein said RF coil system comprises two sets of four RF coils.

12. (Previously Presented) The method as claimed in claim 9, wherein said RF coil system comprises a birdcage head coil arrangement.

13. (Previously Presented) The method as claimed in claim 12, wherein said controlling step combines the RF signals of RF coils arranged on opposite sides of the head.

14. (Previously Presented) The method as claimed in claim 9, wherein said controlling step combines the RF signals of neighboring RF coils.

15. (Previously Presented) The method as claimed in claim 9, wherein said controlling step selects and/or combines the RF signals of at least two RF coils depending on the phase encoding direction.

16. (Previously Presented) The method as claimed in claim 9, wherein said controlling step selects and/or combines the RF signals of at least two RF coils depending on the desired SENSE reduction direction.